Table 1 Minimum inhibitory concentration (MIC)

Serial No	*Penicillin*	*Ciprofloxacin*	*Spectinomycin*
1*	>10 µg/ml (resistant)	0.125 µg/ml (less sensitive)	16 µg/ml (sensitive)
2	0.64 µg/ml (less sensitive)	0.125 µg/ml (less sensitive)	16 µg/ml (sensitive)
3*	>10 µg/ml (resistant)	0.125 µg/ml (less sensitive)	16 µg/ml (sensitive)

*Contracted the infection in Thailand.

spectinomycin, all patients attended for at least one repeat smear and culture. In all tested cases repeat smear and cultures were negative. Of seven patients who defaulted for test of cure despite repeated recall letters, five were below the age of 19. The strains isolated in three patients were less sensitive to ciprofloxacin (see table 1). Of the three patients two had infection due to penicillinase producing *Neisseria gonorrhoeae* (PPNG) and they contracted the infection in Thailand. Two of these patients were treated with a single oral dose of 500 mg of ciprofloxacin and one patient was treated with 2 g of intramuscular spectinomycin and subsequently culture became negative.

The proportion of quinolone resistant *Neisseria gonorrhoeae* isolates is rising throughout the world and the levels of resistance in these isolates have risen substantially in recent years.[4] In Britain, ciprofloxacin resistance is associated with imported cases especially from the Far East[5] and high level resistance to ciprofloxacin has also been reported.[6] However, treatment failure remains low especially if the infection is acquired within the United Kingdom.[5] Moreover, it has been reported that failure rate of ciprofloxacin treatment is lower than the percentage of ciprofloxacin resistant isolates and therefore in vitro resistance to ciprofloxacin may not translate into clinical treatment failure.[4]

A single oral dose of 100 mg ciprofloxacin has been reported to be effective in eradicating uncomplicated urethral gonorrhoea in men.[2] In our study a single oral dose of 250 mg of ciprofloxacin was found to be effective for treating uncomplicated gonococcal urethritis and cervicitis. However, consideration may be given to a higher dose of ciprofloxacin or other alternatives when the infection may have been acquired in locations where resistant strains are endemic.

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Investigation of the increased incidence of gonorrhoea diagnosed in GUM clinics in England, in 1994–6

EDITOR,—Hughes *et al*[1] recently presented an investigation of the increased incidence of gonorrhoea diagnosed in GUM clinics in England, in 1994–6 within which they have included the data from our clinic.

We reviewed the incidence of gonococcal infection diagnosed in the department of genitourinary medicine, Coventry Healthcare NHS Trust in 1994 and 1996, using the same criteria which had been applied in their study (see table 1).

Similar to Hughes *et al*, we found that the incidence of gonorrhoea had increased remarkably in 1996 compared with 1994 (48 cases in 1994 and 94 in 1996) Of the total number of patients, 49 had other acute STIs at the time of presentation including 37 of them with chlamydial infection; 13 patients were homosexual and four had infection in the oropharyngeal, rectal, or both sites; 39 patients had attended the clinic previously and eight of them suffered from gonococcal infection.

We found a completely different picture with respect to the incidence of penicillin resistance in the gonococcal isolates; while six patients (13.5%) were found to be penicillin resistant in 1994 only three (3.03%) were found to be penicillin resistant in 1996; four homosexual patients were found to be penicillin resistant and two of them had contacts who lived outside Coventry. We have been using penicillin as the first line of treatment for gonorrhoea for the past 20 years or more and the incidence of treatment failure in our area is very low. Accordingly, we believe that the causes of increased incidence of gonococcal infection in the Coventry area are not related to penicillin resistance.

Although most of the patients infected were white, 117 cases (82%), the incidence of gonococcal infection was disproportionately high in black ethnic group, 19 cases (13%); this group however contributed 1.9% of the population in Coventry. Six patients were of Asian origin and interestingly they were second generation Asians and five of them were male, single, of 20–25 age group, and having three or more sexual partners.

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Table 1 Incidence of gonorrhoea in 1994 and 1996

Subjects	*1994*	*1996*
Cases	48	94
Male	34	65
Female	14	34
Heterosexuals	43	86
Homosexual	5	8
white	36	81
African/Caribbean	9	10
Asian	3	3
Penicillin resistance	**6**	**3**
Other STI	13	34
Chlamydia	10	27

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1 Hughes G, Andrews N, Catchpole M, *et al.* Investigation of the increased incidence of gonorrhoea diagnosed in genitourinary medicine clinics in England, 1994–6. *Sex Transm Inf* 2000;**76**:18–24.

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Perceptions of disease and therapy are factors influencing adherence to antiretroviral therapy

EDITOR,—HIV infection is now considered a chronic condition. Patients will have to learn to live with the disease for their life. Therefore, the management of psychological aspects, besides clinical ones, is becoming increasingly important. In most cases the infection can be controlled by effective but complex treatments. On the other hand, people living with HIV face everyday problems related to the disease, the therapy, and a persisting social stigma which inevitably influences their behaviour. Based on this, the patients' perceptions of disease and therapy may be important in adherence of patients to treatment,[1] which is now an important aspect in HIV care.[2 3] The study, "Compliance in HIV" has analysed the role of these factors on adherence to therapy.

This is a multicentre observational study focused on evaluating the level of adherence to anti-HIV therapies conducted in Italy. Eligible for the study were HIV+ patients, aged >18 years using combination therapy (bi- and tri-combination therapy) identified in randomly selected days during June 1998 at five outpatient clinics (Milan, Brescia, Florence, Rome, and Naples). Patients were asked to read and sign the informed consent form. They were interviewed by trained psychologists. The questionnaire includes information on general characteristics, clinical conditions, therapy, adherence to therapy, expectation, personal relationship, and perceptions of life, the future, disease, and therapy. In particular, patients were asked to indicate how they perceive HIV disease (among the following adjectives: enslaving, cruel, threatening, invasive, constructive) and the therapy (among the following adjectives: protective, reliable, allied, exigent, enslaving). Each subject could indicate more than one adjective. Less than 5% of eligible subjects refused the interview. Adherence was measured as the number of errors made in the previous week and the past 2 months. Errors made in the previous week were indicated first and then errors made in the previous 2 months in order to help patients to recall less recent events. The kinds of errors investigated included: missing doses of one specific drug, interrupting the entire combination, altering time schedule, wrong association with food, wrong association of drugs, wrong count of pills. Adherence to treatments was defined as follows: high: less than 2 errors; medium: 3–4; low: 5 or more during the 2 months before interview.

In all, 214 HIV infected subjects were enrolled: 63.6% were males and 36.4% females. The age distribution was <24 years 3.8%; 25–34 years 43.4%; 35–44 years 37.4%; 45 years 15.4%. The average time from HIV diagnosis was 6.8 years; 61.2% of respondents reported having HIV related symptoms (currently or in the past). Combination therapies most used were: stavudine, lamivudine, in-